

**BULK SPECIFIC GRAVITY
OF
COMPACTED HOT MIX ASPHALT
USING
SATURATED SURFACE-DRY SPECIMENS
AASHTO T 166**

APPARATUS

- ☐ Balance
 - ☐ Suspension apparatus from center of balance pan
 - ☐ Suspension wire of smallest practical size
 - ☐ Holder and sample completely immersed
- ☐ Water Bath
 - ☐ Equipped with overflow outlet to maintain constant water level
 - ☐ Deep enough to completely immerse holder and sample
 - ☐ Water is $77 \pm 1.8^{\circ}\text{F}$
- ☐ Room temperature is $77 \pm 9^{\circ}\text{F}$
- ☐ Large flat bottom drying pan (Method C)

PROCEDURE -- METHOD A

- ☐ Specimen dried until constant mass (Note 1) is achieved (samples are not required to be dried overnight)
- ☐ Specimen cooled to room temperature at $77 \pm 9^{\circ}\text{F}$ and weighed
- ☐ Specimen immersed in water for 3-5 minutes and weight recorded
- ☐ Specimen surface dried by blotting with a damp towel as quickly as possible and weighed (Note 2)

Note 1 -- Constant weight for Method A is defined as the weight at which further drying at $125 \pm 5^{\circ}\text{F}$ does not alter the weight by more than 0.05 percent.

Note 2 -- Terry cloth has been found to work well for use as a towel. Damp is considered to be when no water can be wrung from the towel

- [] Bulk specific gravity is calculated correctly to three decimal places (0.000) as follows:

$$\text{Bulk Specific Gravity} = \frac{A}{B - C}$$

where:

A = weight in grams of sample in air

B = weight in grams of surface - dry specimen in air

C = weight in grams of sample in water

- [] Percent water absorbed by specimen is equal to or less than 2 percent by volume as follows:

$$\text{Percent Water Absorbed by Volume} = \frac{B-A}{B-C} \times 100$$

PROCEDURE -- METHOD C (RAPID TEST FOR SPECIMENS OBTAINED BY CORING OR SAWING)

- [] Specimen immersed in water for 3-5 minutes and weight recorded
- [] Specimen surface dried by blotting with a damp towel as quickly as possible and weighed (Note 2)
- [] Specimen placed in large flat bottom drying pan of known weight
- [] Pan and specimen placed in oven at $230 \pm 9^{\circ}\text{F}$ until the specimen can be easily separated to the point where the particles of the fine aggregate - binder portion are not larger than 1/4 in.
- [] Separated specimen dried in oven at 230°F to constant weight (Note 3)

Note 3 -- Constant weight for Method C is defined as the weight at which further drying at $230 \pm 9^{\circ}\text{F}$ does not alter the weight by more than 0.05 percent

- [] Pan and specimen cooled in air to room temperature at $77 \pm 9^{\circ}\text{F}$ and weighed
- [] Dry weight of specimen determined by subtracting the weight of pan from weight of pan and sample

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[] Bulk specific gravity is calculated correctly to three decimal places (0.000) the same procedure used in Method A

NA - Not Applicable

X - Requires Corrective Action

√ - Satisfactory

Acceptance Technician

INDOT

Date

Comments _____

